

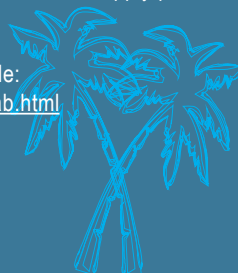
Miramar

City of
2007 WATER QUALITY REPORT
DEPARTMENT OF UTILITIES



We're pleased to provide you with this year's Annual Water Quality Report. We want to keep you informed about the excellent water and services we have delivered to you over the past year. Our goal is and always has been to provide you with a safe and dependable supply of drinking water. Our water source is ground water from wells. The wells draw from the Biscayne Aquifer. Please take a moment to familiarize yourself with our water system and gain some insight into the City's future water supply plans and projects.

Available in Spanish and Creole:
www.ci.miramar.fl.us/utilities/lab.html
(954) 704-4431



City Commission

Lori C. Moseley, Mayor
Yvonne Garth, Vice Mayor
Winston F. Barnes, Commissioner
Carl J. Lanke, Commissioner
Troy R. Samuels, Commissioner

City Manager

Robert A. Payton

Assistant City Manager, Operational Services

Vernon E. Hargray

Director of Utilities

Hong Guo, P.E.

Water Test Results:

Carol Vassell, Water Quality Manager (954) 430-5319

Water Billing Questions:

Customer Service (954) 602-3896

All Other Inquiries:

Water leaks, water service activation, and general questions (954) 704-4431

Water Plant Tours: (954) 438-1231



Three Million Gallon Storage Tank

The 2007 Water Quality Report was produced by
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City of Miramar

Office of Operational Services
Department of Utilities
13900 Pembroke Road
Miramar, FL 33027

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OUR WATER?



iramar's drinking water comes from the Biscayne Aquifer, a huge underground reservoir that is made of coral rock. The Aquifer's thickness ranges from 60 to 150 feet below ground surface in Miramar and is fed by Lake Okeechobee, the Everglades and from rainfall directly over the Aquifer.

Water is then drawn from the Aquifer by supply wells and is processed in two treatment plants before distribution to your home. A Source Water Assessment provides information about ground water quality prior to treatment and distribution.

Both tap water and bottled drinking water sources include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material. It can also pick up unwanted substances from animals or human activity.

• **Some microbial contaminants may include:** viruses and bacteria that come from sewage treatment plants, septic tanks, agricultural livestock operations, and wildlife. • **Inorganic contaminants include:** salts and metals that can occur naturally or as a result of urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming. • **Other contaminants are:** pesticides and herbicides from agriculture, urban stormwater runoff, and residential uses; synthetic and volatile organic chemicals that are by-products of industrial processes and petroleum production or from gas stations, urban stormwater runoff, and septic tanks; and naturally occurring radioactive contaminants or those resulting from oil and gas production and mining activities.

To ensure safe tap water, the Environmental Protection Agency (EPA) prescribes regulations that limit the amount of contaminants in public water systems. U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water which must provide the same protection for public health. All drinking water may reasonably be expected to contain small amounts of some contaminants which does not necessarily pose health risks. For more information about contaminants and potential health effects, call the Environmental Protection Agency's Safe Drinking Water Hotline at (800) 426-4791.



DEFINITIONS & ABBREVIATIONS

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the Maximum Contaminant Level Goal (MCLG) as feasible using the best available treatment technology.

Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

Action Level (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

A: absent

ND: non-detectable

pCi/L: Picocuries per liter, a measure of radioactivity in water

ppm: parts per million

ppb: parts per billion



WATER TREATMENT

The City of Miramar operates the East and the West Water Treatment Plants. Well pumps withdraw groundwater from the Biscayne aquifer. The raw water is treated with a membrane process at the West Plant or a conventional lime softening process at the East Plant. The treatments remove sediments, harmful bacteria and certain minerals. The water is disinfected by chlorination and fluoridated. Water treated by both water plants is then conveyed through the water distribution piping system.

WATER QUALITY

The City of Miramar's Water Treatment Facilities are in compliance with all National Primary Drinking Water Regulations (NPDWR). Total coliform bacteria is a good indicator of harmful bacteria in water. Lead, copper and radioactive tests are conducted once every three years. When water leaves the treatment plants, it is virtually free of lead and copper. Lead contamination comes primarily from household plumbing corrosion. Lead and copper were sampled at 60 voluntary sites. The 90th percentile value of the latest samplings for lead and copper are reported in the attached table. None of the sites exceeded the lead and copper action levels. Some homes with lead services and pipes may experience higher levels. If you are not sure whether your pipes contain lead or copper, run tap water from the faucet until it changes temperatures to flush the pipes.

2007 CITY OF MIRAMAR FINISHED WATER QUALITY (JANUARY 1, 2007 - DECEMBER 31, 2007)

CONTAMINANT	UNITS	VIOLATION OF MCL? (Y/N)	MCLG	MCL	LEVEL DETECTED	RANGE OF RESULTS	LIKELY SOURCE OF CONTAMINATION
Regulated Contaminants (Primary)							
Microbial Contaminants							
Total Coliform Bacteria	positive	N	5%	5%	A		Naturally present in the environment
Radioactive Contaminants							
Alpha Emitters (2003)	pCi/L	N	0	15	0.8	0.5-0.8	Erosion of natural deposits
Combined Radium (2003)	pCi/L	N	0	5	0.4	0.0-0.4	Erosion of natural deposits
Inorganic Contaminants							
Arsenic	ppb	N	N/A	10	0.00120	ND-0.00120	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Copper per tap (2007)	ppm	N	0	AL 1.3	0.63	0.009-0.63	Corrosion of household plumbing systems; erosion of natural deposits
Fluoride	ppm	N	N/A	4	0.89	0.74-0.89	Water additive which promotes strong teeth; erosion of natural deposits
Lead per tap (2007)	ppb	N	0	AL 15	ND	ND	Corrosion of household plumbing systems; erosion of natural deposits
Barium	ppb	N	0	2000	0.00380	ND-0.00380	Discharge from metal wastes; erosion of natural deposits
Nickel	ppb	N	N/A	100	0.0148	ND-0.0148	Pollution from mining and refining operations. Natural occurrence in soil
Nitrate (as Nitrogen)	ppm	N	0	10	0.080	ND-0.080	Runoff from fertilizer use; erosion of natural deposits
Nitrite (as Nitrogen)	ppm	N	0	1.0	0.185	ND-0.185	Runoff from fertilizer use; erosion of natural deposits
Sodium	ppm	N	N/A	160	28.2	19.6-28.2	Slight salt water intrusion; natural leaching from soil
Total Trihalomethanes (TTHMs) and Stage 1 Disinfectant/Disinfection By-Product (D/DBP) Parameters							
Chlorine/Chloramine	ppm	N	4.0	4.0	2.6	0.20-2.6	Addition of chlorine or chloramines to drinking water for disinfection
Total Trihalomethanes (TTHMs)	ppb	N	0	80	29.0	2.1-79	By-product of drinking water chlorination
Haloacetic Acids (HAAs)	ppb	N	0	60	18.9	0.49-64	By-product of drinking water chlorination
Volatile Organic Contaminants (VOCs)							
cis- 1,2-Dichloroethylene	ppb	N	7	7	0.260	ND-0.260	Discharge from industrial chemical factories

Violation of MCL-None

The EPA requires monitoring of over 80 drinking water contaminants. Those contaminants listed in the table above are the only contaminants detected in your drinking water. We are pleased to report that our drinking water meets all federal and state requirements.

HELPFUL INFORMATION:

The Florida Department of Environmental Protection (FDEP) performed a Source Water Assessment on our system in 2004 and a search of the data sources indicated no potential sources of contamination near our wells. The assessment results are available on the FDEP Source Water Assessment and Protection Program website at www.dep.state.fl.us/swapp

Superchlorination will take place for two consecutive weeks and will be scheduled during the last quarter of 2008. Further information will be provided on water bills, local newspapers, the City's cable channel, and the City's website www.ci.miramar.fl.us/UTILITIES



BE WATER SMART...CONSERVE WATER!

- Operate automatic dish and clothes washers only when they are fully loaded or set the appropriate water level.
- Replace washers on dripping faucets. One drop per second wastes 2,700 gallons of water per year.
- Make sure your home is leak-free. Check your water meter and record the reading. After a period of time has elapsed without any water usage, check the reading again. If it has changed, you most likely have a leak.

* This information is provided courtesy of EPA (Environmental Protection Agency) For more information, visit www.epa.gov



HEALTH INFORMATION:

Lead may cause high blood pressure, hearing problems, and kidney or nervous system disorders in adults. In infants and children, lead can interfere with the formation of blood cells, cause low birth weight, delay physical and mental development or be a cancer risk. At high levels, **copper** can cause gastrointestinal difficulties.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly people, and infants can be particularly at risk from infections. These people should seek advice about their drinking water from their healthcare providers.

EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium are available from the Safe Drinking Water Hotline at 1-800-426-4791.





A MESSAGE FROM THE CITY MANAGER

Dear Resident:

We hope that you find the City of Miramar's 2007 Water Quality Report informative and proof of your city's commitment in providing superior service and quality to our residents.

As you read through the report, you will notice our dedication to continued high quality of water and high customer service level. Our level of service of uninterrupted water service is second to none.

As always we look to the future, and have projects in place to ensure that we have a viable water source. We have proven this by being one of the pioneers to use reuse water for irrigation and promoting water and water conservation.

If you have any questions or concerns, please contact
Ms. Hong Guo, P.E., D.E.E., Director of Utilities (954)-538-6888.

Robert Payton
City Manager

WATER & WASTEWATER

P R O J E C T S U P D A T E

Alternative Water Supply

Floridan Aquifer & Reclaimed Water

To meet future drinking water demands and comply with the South Florida Water Management District's newly implemented Water Availability Rule, the City of Miramar must utilize an alternative water supply (other than the Biscayne Aquifer). The construction of two Floridan Aquifer wells are currently underway and should be substantially completed by August 2008. These wells are expected to yield approximately 2.5 mgd of source water for treatment. A 2.0 million gallons per day (mgd) reverse osmosis (RO) treatment unit will be added to the West Water Plant's current treatment systems to treat this source water for drinking water use. The reclaimed water system is another alternative water supply system used for irrigation that will be expanded an additional 2.0 mgd. The City will utilize grants from the South Florida Water Management District to help offset a small fraction of the cost. By utilizing alternative water supplies, the City will be able to sustain its economic growth and natural resources.

Water & Wastewater

Plant Improvement Projects

There are various projects underway or scheduled to begin soon at the East and West Water Treatment Plants and the Wastewater Reclamation Facility (WWRF). Modifications to the West Water Treatment Plant were completed in 2007 which resulted in an additional 1.75 mgd potable water capacity to the system. The building renovation and enhancement of the sludge dewatering facility at the East Water Treatment Plant is scheduled to start September 2008. Also, in the latter part of this year, the WWRF will begin an additional 2.0 mgd expansion to meet current and future wastewater treatment capabilities.

Fire Hydrant & Distribution System Improvements

Phases 1 & 2

This project will replace inadequate undersized water mains located in Eastern Miramar with larger diameter pipe to provide potable water at sufficient pressure. Furthermore, additional fire hydrants will be installed to provide enhanced fire fighting capabilities. The construction is divided into two phases and is taking place in the area bounded by SW 25th Street to the North, SW 41st Street to the South, SW 64th Avenue to the East and SW 68th Avenue to the West. The construction commenced in early November 2007 and over 75% of the work has been completed. Final completion of the project including site restoration is scheduled in July 2008.

Sewer Lines

Rehabilitation

A comprehensive TV inspection of the collection system is being conducted to ascertain the extent of ground water infiltration and inflow (I/I). These areas comprise approximately 109,000 linear feet of sanitary sewer mains and 460 manholes. They are generally bounded east-west by SW 68th Avenue and University Drive, and north-south by Miramar Boulevard and Miramar Parkway. Access is through backyard easements, so inspections can be most efficiently undertaken by a utility contractor. The contractor will clean, televise and make minor repairs. The inspection results will be used to determine the most effective rehabilitation methods that will be implemented for major structural defects. Work is in progress and is 25% complete (inspection only).